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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,321	05/04/2006	Takenori Yoshizawa	1248-0870PUS1	5572
2292	7590	02/04/2010	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				KRYCINSKI, STANTON L
ART UNIT		PAPER NUMBER		
3637				
			NOTIFICATION DATE	DELIVERY MODE
			02/04/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/578,321	YOSHIZAWA, TAKENORI
	<b>Examiner</b>	<b>Art Unit</b>
	Stanton L. Krycinski	3637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 August 2009.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 49-106 is/are pending in the application.  
 4a) Of the above claim(s) 53-55,64,77,78,81-83,92,105 and 106 is/are withdrawn from consideration.  
 5) Claim(s) 49,56-63,65,69 and 74-75 is/are allowed.  
 6) Claim(s) 50,51,66-68,70-73,76,79,80,84-91 and 93-104 is/are rejected.  
 7) Claim(s) 52 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>7/15/2009, 11/4/2009</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

## DETAILED ACTION

### ***Response to Amendment***

1. Applicant's response filed August 14, 2009 is acknowledged. Claims 1-48 are cancelled and claims 49-106 are newly added claims.

### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on November 6, 2003. It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b). Applicant is required to submit an English translation of the foreign application to claim benefit of the foreign priority filing date.

### ***Election/Restrictions***

3. Newly submitted claims **53-55, 64, 77, 78, 81-83, 92, 105 and 106** are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

4. Claims 53 and 81 have upper and lower contact sections each having an inclined intermediate region surrounded by horizontal outer and inner regions. Claims 54, 55, 82 and 83 have upper and lower inclined sections that are inclined in opposite manners. Claims 64 and 92 have at least one of the upper and lower contact sections having inclined sections curved in a manner that the lower a position is, the more gradual a gradient is. Claims 77, 78, 105 and 106 have an upper contact section on opposite ends having a same variation of either an upslope or downslope.

5. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims **53-55, 64, 77, 78, 81-83, 92, 105 and 106** are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Objections***

6. Claims **52 and 80** are objected to because of the following informalities: it appears “an peripheral edge” on line 3 of each claim should read --a peripheral edge--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims **50 and 51** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not state that the loading bed is made of a material that can absorb impact more than the frame (claim 50). Claim 51 is rejected based on its dependency of claim 50.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims **66-68, 70-73, 76, 94-96, 98-100 and 104** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. The recitation, "the first substrate carrying tray" in claims 66-68, 71, 72, 76, 94-96, 99, 100 and 104 lacks proper antecedent basis. The recitation, "the second substrate carrying tray" in claims 66, 76, 94 and 104 lacks proper antecedent basis. The recitation, "said carrying tray" in claims 67 and 95 lacks proper antecedent basis.

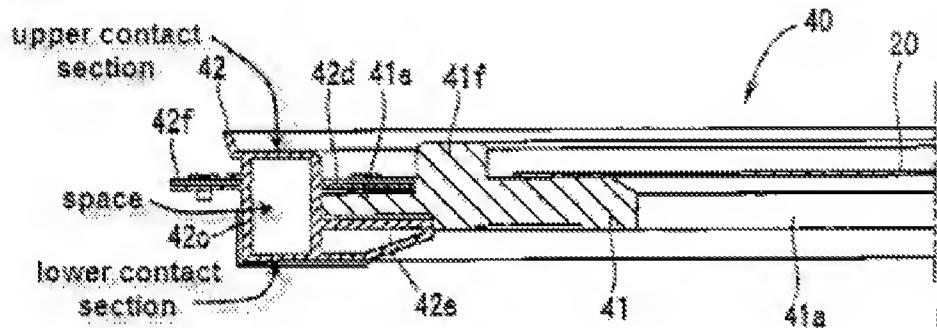
12. Claims 70 and 98 are indefinite for failing to further limit the subject matter of previous claim 49 and 79 respectively.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims **79, 80, 84-90 and 93-104** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (Yoshizawa; US Patent Application No. 2004/0145697 A1) in view of Irwin (US Patent No. 1,941,941) and Smith (US Patent No. 2,233,434).



**Figure 10A. Yoshizawa et al. (US Patent Application Publication No. 2004/0145697 A1).**

15. In regards to claim 79, Yoshizawa teaches a stackable substrate carrying tray (40, Fig 9A) for placing a substrate (20, Fig 10A) horizontally thereon, being stackable by making an upper contact section of the substrate carrying tray contact a lower surface of an upper tray and by making a lower contact section of the substrate carrying tray contact an upper surface of a lower tray, comprising:

a loading bed (41, Fig 10A) for loading the substrate (20); and  
a frame (42) provided to surround an outer edge (41e) of the loading bed (41),  
wherein the frame (42) includes the upper contact section and the lower contact section  
as illustrated in Figure 10A above,

wherein the loading bed (41) includes a frame section (41f) whose inner  
perimeter is larger than an outer perimeter of the substrate (20).

16. Yoshizawa fails to teach the upper contact section having an upper inclined  
section and the lower contact section having a lower inclined section, and an upper  
surface of the frame section (41f) being lower than the upper contact section.

17. Irwin teaches a stackable substrate carrying tray having an upper contact section (26a, Fig 7) having an upper inclined section, and a lower contact section (27a, Fig 7) having a lower inclined section.

18. Smith teaches a stackable substrate carrying tray (1) having a loading bed (25) with a frame section (15), wherein the upper surface of the frame section (15) is lower than an upper contact section of a frame (3).

19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshizawa's tray to have an upper inclined section on the upper contact section and a lower inclined section on the lower contact section for the purpose of increasing a maximum number of stackable trays and maintaining a sufficiently stable stack as suggested by Irwin (Column 1, Lines 10-20); and

to have the upper surface of the frame section being lower than the upper contact section as suggested by Smith, for the purpose of allowing a substrate with a larger height to be held on the loading bed without contacting an upper tray due to the upper contact section being positioned higher.

20. In regards to claim 80, Yoshizawa, modified by Irwin and Smith, teaches the frame (42) includes a protrusion (42f) that engages a chuck for catching the stackable substrate carrying tray, the protrusion (42f) outwardly protruding from an outer edge surface of a peripheral edge of the frame (42; Page 9, Paragraph 0138).

21. In regards to claim 84, Yoshizawa, modified by Irwin and Smith, teaches the upper contact section is formed in a shape (as modified by Irwin) enabling to move back the upper tray to a standard situation by making the lower surface of the upper tray

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move back on the upper contact section of the stackable substrate carrying tray (40) by use of gravity and inclination of the upper contact section, when the upper tray has moved on the stackable substrate carrying tray so as to go out of the standard situation due to moving of the lower surface of the upper tray on the upper contact section of the stackable substrate carrying tray (40), the standard situation being a situation wherein a center of gravity of the upper tray is positioned right above a center of gravity of the stackable substrate carrying tray (40).

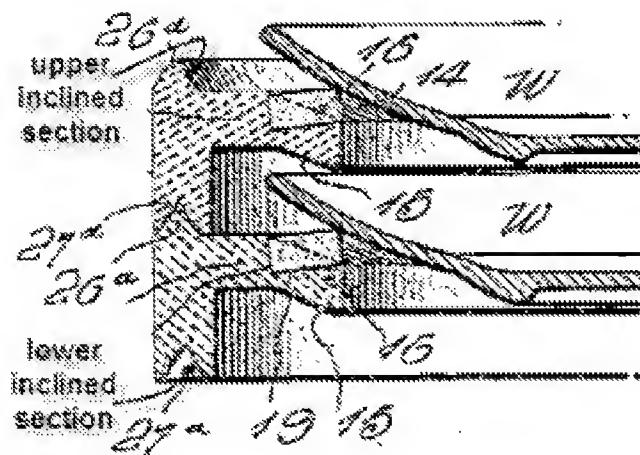


Figure 7. Irwin (US Patent No. 1,941,941).

22. In regards to claims 85 and 86, Yoshizawa, modified by Irwin and Smith, teaches the lower inclined section has a same inclined direction as that of the upper inclined section as modified by Irwin and illustrated in figure 7 above (claim 85), and wherein the upper and lower contact section are disposed on a peripheral edge of the substrate carrying tray as modified by Irwin and illustrated in figure 7 above (claim 86).

23. In regards to claims 87 and 88, Yoshizawa, modified by Irwin and Smith, teaches the upper and lower contact sections are different from a protrusion (42f) that engages a chuck for catching the stackable substrate carrying tray (claim 87), and

the stackable substrate carrying tray (40) includes a protrusion (42f) that engages a chuck for catching the stackable substrate carrying tray, the protrusion (42f) outwardly protruding from an outer edge surface of the peripheral edge of the stackable substrate carrying tray (40), the outer edge surface is formed, in a plane manner, in such a direction that becomes a vertical direction when the stackable substrate carrying tray (40) is placed horizontally, and the upper and lower contact sections are provided inwardly from the outer edge surface (claim 88).

24. In regards to claims 89, 90 and 93, Yoshizawa, modified by Irwin and Smith, teaches an upper inclined section is provided entirely on an upper surface of an upper contact section (26a, Fig 7 of Irwin), and a lower inclined section provided entirely on a lower surface of a lower contact section (27a, Fig 7 of Irwin) as recited in claim 89; and

an upper inclined section is provided on a portion including an outer edge or inner edge of an upper surface of the upper contact section (26a, Fig 7 of Irwin), and a lower inclined section is provided on a portion of the lower contact section (27a, Fig 7 of Irwin), the portion including an edge corresponding to an edge on which the upper inclined section is disposed as recited in claim 90; and

upper and lower inclined sections have an identical shape at respective contact portions as recited in claim 93.

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25. In regards to claim 94, Yoshizawa, modified by Irwin and Smith, teaches the upper contact section contacting the first substrate carrying tray which is stacked above said substrate carrying tray by only the surface of the upper contact section and the lower contact section contacting the second substrate carrying tray which is stacked below said substrate carrying tray by only the surface of the lower contact section, and wherein the surface of the upper contact section and the surface of the lower contact section have the same surface area, the same shape, and the same inclination as modified by Irwin.

26. In regards to claim 95, Yoshizawa, modified by Irwin and Smith, teaches the substrate carrying tray (40) has such a shape that the first substrate carrying tray is not in contact with the substrate (20) when the substrate is placed on said carrying tray.

27. In regards to claim 96, Yoshizawa, modified by Irwin and Smith, teaches the substrate carrying tray (40) has such a shape that there is a space between a lower end of the first substrate carrying tray and an upper end of the substrate (20) when the substrate is placed on said substrate carrying tray.

28. In regards to claim 97, Yoshizawa, modified by Irwin and Smith, teaches the upper and lower contact sections each has such a shape that a space inside the frame (42) is an enclosed space when the substrate carrying tray (40), the upper tray and the lower tray are stacked on each other.

29. In regards to claim 98, Yoshizawa, modified by Irwin and Smith, teaches the loading bed (41) includes a frame section (41f) whose inner perimeter is larger than an outer perimeter of the substrate (20).

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30. In regards to claim 99, Yoshizawa, modified by Irwin and Smith, teaches the frame section (41f) of the loading bed (41) has such a shape that the first substrate carrying tray is not in contact with the substrate (20) when the substrate (20) is placed on said substrate carrying tray (40).

31. In regards to claim 100, Yoshizawa, modified by Irwin and Smith, teaches the frame section (41f) of the loading bed (41) has such a shape that there is a space between a lower end of the first substrate carrying tray and an upper end of the frame section (41f).

32. In regards to claim 101, Yoshizawa, modified by Irwin and Smith, teaches an upper end of the frame section (41f) of the loading bed (41) is lower than an upper end of the upper contact section and higher than an upper end of the substrate (20) placed on the substrate carrying tray (40) as modified by Smith.

33. In regards to claim 102, Yoshizawa, modified by Irwin and Smith, teaches the upper and lower contact sections each has such a shape that the upper and lower contact sections, connected to each other, constitute a post (cross-section of 42c) which extends vertically when the substrate carrying tray (40), the upper tray and the lower tray are stacked on each other.

34. In regards to claim 103, Yoshizawa, modified by Irwin and Smith, teaches two or more substrates (20) can be vertically placed and carried by a structure that three or more stackable substrate carrying trays (40) are stacked.

35. In regards to claim 104, Yoshizawa, modified by Irwin and Smith, teaches the upper contact section contacting a first substrate carrying tray which is stacked above

said substrate carrying tray (40) by only an angled portion of the upper contact section and the lower contact section contacting a second substrate carrying tray which is stacked below said substrate carrying tray (40) by only an angled portion of the lower contact section, and wherein the angled portion of the upper contact section and the angled portion of the lower contact section have equal width and the same inclination as modified by Irwin.

36. Claim **91** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (Yoshizawa; US Patent Application No. 2004/0145697 A1) in view of Irwin (US Patent No. 1,941,941) and Smith (US Patent No. 2,233,434) as applied to claim 79 above, and in further view of Bradley (US Patent No. 738,980).

37. Yoshizawa, modified by Irwin and Smith, fails to teach at least one of the upper and lower inclined sections (modified by Irwin) are inclined in a plane manner (extending in a plane). Bradley teaches upper and lower inclined section (10 and 11) are inclined in a plane manner.

38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Yoshizawa's tray, previously modified by Irwin and Smith, to have at least one of the upper and lower inclined contact sections inclined in a plane manner because Yoshizawa's contacting surfaces are in a plane manner to accommodate square substrates, and therefore having the inclined surface in a plane manner would have been desirable based on different shapes as suggested by Irwin (Column 1, Lines 3-7).

***Response to Arguments***

39. Applicant's arguments with respect to claims 50, 51, 66-68, 70-73, 76, 79, 80, 84-91 and 93-104 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

40. Claims **49, 56-63, 65, 69, 74 and 75** are allowed.

41. Claim **52** would be allowable if rewritten to overcome the objection(s) set forth in this Office action.

42. Claims **50, 51, 66-68, 70-73 and 76** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 1st and/or 2nd paragraph set forth in this Office action.

***Conclusion***

43. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanton L. Krycinski whose telephone number is 571-270-5381. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Allen Shriver can be reached on 571-272-6698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Safavi/  
Primary Examiner, Art Unit 3637

/S. L. K./  
Examiner, Art Unit 3637